***Final Exam:***

***Psuedocode:***

get\_filename()

GET filename

RETURN filename

get\_file\_data( filename )

WITH open(filename) AS file

file.read()

WHILE file != null

data[file] 🡨

RETURN data

sort\_data( data )

FOR name 🡨 0 … data

IF name NOT IN new\_list

new\_list = name

RETURN new\_list

main()

filename = get\_filename()

data = get\_file\_data( filename )

new\_list = sort\_data( data )

PUT new\_list

***Algorithmic Efficiency:***

O(n) Efficiency for both sort\_data and get\_file\_data functions.

This efficiency is due to having to touch each item in each list exactly 1 time. Therefore if the list is bigger, I’ll have to touch more items making the program less efficient.

***Added Asserts:***

get\_filename()

GET filename

ASSERT type(filename) = str

RETURN filename

get\_file\_data( filename )

WITH open(filename) AS file

file.read()

WHILE file != null

data[file] 🡨

ASSERT len(data) > 0

RETURN data

sort\_data( data )

FOR name 🡨 0 … data

IF name NOT IN new\_list

new\_list = name

ASSERT len(new\_list) > 0

ASSERT len(new\_list) < len(data)

RETURN new\_list

main()

filename = get\_filename()

data = get\_file\_data( filename )

new\_list = sort\_data( data )

PUT new\_list